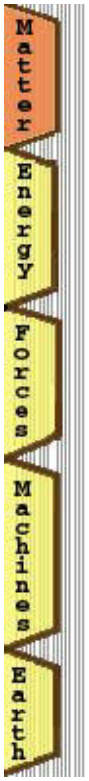
WE ALL SCREAM FOR ICE CREAM



STANDARD 3240-01 Students will observe and describe chemical and physical change.

Objectives
3240-0101 Differentiate between common physical and chemical changes.
3240-0102 Analyze factors that influence chemical and physical change.

Intended Learning Outcomes
1a. Make observations and measurements.
1g. Construct models and simulations to describe and explain natural phenomena.
4d. Recognize the personal relevance of science in daily life.

Materials (work in groups of 3-4)
One cup milk
1/2 tsp. vanilla extract
6 bags of ice (per 30 students)
1 cup whipping cream
1 cup rock salt, not regular salt
1 one gallon tin can with lid
1 30 oz. tin can with lid
1/2 cup sugar
nuts, fruits, candy (optional)

Procedure
1. Mix and pour all of the ingredients (not ice) into the small can.

2. Seal the small can with its plastic lid.

3. Place a one inch layer of ice in the bottom of the large tin can.

4. Place the small tin can and add 1/2 cup of rock salt around the smaller can.

5. Continue packing the large can full of ice near to the top. Sprinkle 1/2 cup of rock salt evenly on the ice in the large can.

6. Seal the large can with the plastic lid.

7. Roll the can back and forth between the students in the group for 13 minutes. Tables, hallways, or grass will work. Follow your teacher's directions about where to do this!

8. After rolling the can for 13 minutes, remove the small can and pour all the water out of the large can.

9. Unpack the small can and ENJOY EATING YOUR ICE CREAM! How about sharing with your teacher**!?!**

Dragging your mouse over the link will open a demonstration quicktime video in a new window. Close the window to return to this page.

Safety concerns:

Teachers and students, be sure to keep all Chemical Safety Rules that are specified by your teacher and in all general laboratory experiences.

Analysis and Conclusions

1. What is the purpose of sprinkling rock salt on the ice?
2. Why does frost form on the outside of the large tin can?
3. What is happening inside the smaller can when the ice is going through the phase change?
4. Is the melting ice the only substance going through a phase change? Explain your answer.

CLEAN UP YOUR MESS ACCORDING TO TEACHER'S INSTRUCTIONS

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